

NEMIROVSKIY, P. F.; CHEPURNOV, V. A.

"Single-Particle States of the Deformed Nucleus with the Calculations of  
Noncentral Terms in the Spin-Orbit Interaction (Heavy Nuclei)."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22  
Feb 64.

IAE (Inst Atomic Energy)

NEMIROVSKIY, P.K.  
NEMIROVSKIY, P.K.

Circuit phase shifter. Avtom., telem. i sviaz' no.12:31 D '57.

1. Starshiy inzhener laboratorii signalizatsii i svyazi Stalinskoy dorogi.  
(MIRA 10:12)  
(Electric relays)

NEMIROVSKIY, P.K., starshiy inzh.

Protective blocks for systems signaling the approach of trains at crossings and railroad stations. Avtom., telem. i sviaz' , no.12: 32-33 D '61. (MIR 14:12)

1. Laboratoriya signalizatsii i svyazi Pridneprovskoy dorogi.  
(Railroads--Signalizing) (Electric protection)

PONOMARENKO, G.I.; NEMIROVSKIY, R.A.

Lowering the net cost of road operations. Avt. dor. 24 no. 3:7-8  
Mr '61. (MIRA 14:5)  
(Roads—Cost)

STOYANCHENKO, L. G., P. V. GALT, I. I. KARAEV, D. V. OVKSYAN, R. G., AND P. V. N.

Improving thermal conditions converted smelting, etc.  
24 m.s.  $\times$  1.471 kg/m<sup>3</sup>

1. Sugarski, Z. K. *maatitossia per tyom. Tarkhovka*.  
Sugarski, Z. K. *institutu v. t. s. s. si. Stolbetsk. 1910.*

KOBUS, G.L.; NEMIROVSKIY, R.Ya.

Installation for measuring electric conductivity of ~~electrolytes~~  
using an electron-beam tube as balance indicator of the alternating  
current bridge. Trudy CGMI no.20:31-32 '59. (MIRA 14:10)  
(Electric measurements)

NEMIROVSKIY, R.Ya.

Electron-mechanical voltage stabilizer. Trudy OGMI no.20:33-34  
'59.  
(Voltage regulators)

NEMIROVSKIY, R.Ya.; OVCHINNIKOVA, Ye.N.; GROSSMAN, Ye.M.

Safety device for presses, lathes, and other machines, using capacitive perturbations of high-frequency fields produced by a single-tube two-circuit oscillator. Trudy OGMI no.27:45-47 '61.  
(MIRA 16:6)  
(Machinery--Safety appliances)

GRINVAL'D, D.I.; NEMIROVSKIY, R.Ya.

Measurement and oscillographic recording of the velocity pulsation of  
flow in a natural channel. Meteor. i gidrol. no.5:44-47 My '62.  
(MIRA 15:6)  
(Stream measurements)

SHIEKO, N.A.; NEMIROVSKIY, S.A.; SHABSHAYEVICH, M.L.; RAKHLEVSKIY,  
I.A.

[Systems for the automation of pasteurization and cooling  
plants] Sistemy avtomatizatsii pasterizatsionno-okhladitel'-  
nykh ustanovok. Moskva, TSentr. in-t nauchno-tekh. infor-  
matsii pishchevoi promyshl., 1963. 61 p. (MIRA 17:4)

NEMIROVSKIY, S. S

USSE (600)

Sugar Machinery

Overall use of automatic machinery in weighing and sewing sacks of sugar .  
Sakh. prom. No 7 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1951, Uncl.  
2

NEMIROVSKIY, S.S., RYBAL'CHENKO, V. I.

Water - Waste

Organize the industrial water supply and disposal of waste water. Sakh. prom. 26  
no. 3, 1952.

2  
9. Monthly List of Russian Accessions, Library of Congress, \_\_\_\_\_ June 1957, Uncl.

NEMIROVSKIY, S. S.

Sugar-Manufacture and Refining

Results of a survey of introduction of inventions and suggestions for efficiency in the sugar factories of the Kiev trust. Sakh. prom. 26 No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

NEMIROVSKIY, S.S.

New automatic apparatus. Sakharnaya Prom. 26, №.12, 29-32 '52.  
(CA 47 no.13:6688 '53) (MLRA 5:11)

1. Kiev Sakhavteklotrest.

NEMIROVSKIY, S. S.

Sugar Industry

Obligations of the engineer in rationalization and invention. Sakh. prom. 27, No. 3, 1953

Monthly List of Russian Acquisitions, Library of Congress, June 1953. UNCLASSIFIED.

NEMIROVSKIY, S.S.

Stone-catchers with continuous cleaning. Sakh.prom. 28 no.2:28-29  
'54. (MLRA 7:4)

1. Kiyevskiy sakhseveklotrest.

(Sugar machinery)

BOYCHINOWA, Ye.S., EFROS, S.M., NEMIROVSKIY, V.D.

Volumetric determination of small quantities of oxygen. Trudy LF1  
no.58; 31-35 '59. (MIRA 13:7)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.  
(Oxygen--Analysis)

CHELPANOVA, L.F., MEMIROVSKIY, V.D.

Synthesis of acetals of aliphatic aldehydes. Trudy LTI no.58:55-  
56 '59. (MIRA 13:?)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.  
(Acetals)

5,3200

S/079/60/030/05/10/074  
B005/B002

## AUTHORS:

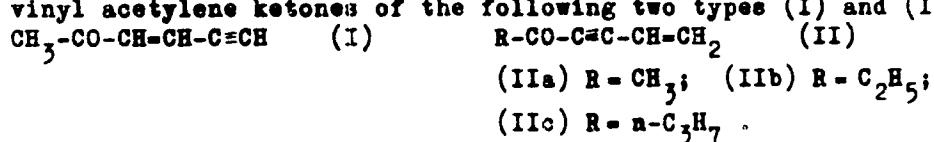
Chelpanova, L. P., Nemirovskiy, V. D., Petrov, A. A.,  
Yakovleva, T. V.

## TITLE:

Investigations in the Field of Conjugate Systems. CXVIII. On  
the Direction of the Addition of Bromine to Vinyl Acetylene  
Ketones<sup>1</sup>

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1445-1450

TEXT: By way of introduction the authors offer a brief survey of publications concerning the rules governing the addition of bromine to vinyl acetylene hydrocarbons (Refs. 1-4) and to derivatives of vinyl acetylene hydrocarbons (Refs. 5, 6). In the paper under review, they describe the results of their investigations on the direction of bromine addition to vinyl acetylene ketones of the following two types (I) and (II):



Card 1/4

Investigations in the Field of Conjugate  
Systems. CXVIII. On the Direction of the  
Addition of Bromine to Vinyl Acetylene Ketones

S/079/60/030/05/10/074  
B005/B002

The structures of the addition products were defined by the analysis of their infrared spectra. Spectroscopic measurements were made on a spectrophotometer of type ИКС-14 (IKS-14). The characteristic frequencies of the two compound types (I) and (II) are given. To determine the direction of the bromine addition to the ketones mentioned, the infrared spectra of the solutions of these ketones in carbon tetrachloride were compared with the spectra of solutions of bromination products in the same solvent. Since the bromides were not isolated from the reaction mixtures, the results supplied refer to the original products of bromination. On the bromination of ketone (I) with the equimolar amount of bromine, this is preferably added to the triple bond. At the same time there also occurs an addition to the double bond, giving rise to a non-conjugate system. The 1,4-addition which is characteristic of the respective hydrocarbon, does not occur in the case of the ketone. On the bromination of ketones (IIa), (IIb), and (IIc), the addition to the triple bond and the addition to the double bond proceed together. A 1,4-addition does not occur here either. The dibromides of ketone (I) could not be isolated, since a decomposition took place on distillation of the

Card 2/4

Investigations in the Field of Conjugate Systems. CXVIII. On the Direction of the Addition of Bromine to Vinyl Acetylene Ketones

S/079/60/030/05/10/074  
B005/B002

reaction mixture. The dibromides of ketone (IIa) were isolated from the reaction mixture. The analysis of their infrared spectrum, shown in Fig. 4, confirmed the above statement concerning the direction of bromine addition. It may be stated in conclusion that vinyl acetylene ketones add bromine to a considerably less selective extent than the respective hydrocarbons. Another characteristic feature is the complete absence of 1,4-addition, as well as the relatively high reaction rate of bromine addition. The otherwise low reactivity of the triple bond is increased by the carbonyl group. It proceeds therefrom that the addition of bromine to the ketones mentioned is probably a nucleophilic reaction (cf. also Refs. 9-11). An experimental part contains data on production, along with main physical data and the characteristic infrared frequencies of the 4 ketones investigated. The reaction conditions in bromination and the physical data of the isolated mixture of the dibromides of the ketone (IIa) are specified as well. Figs. 2 and 3 show the infrared spectra of the 4 ketones investigated and the products of their bromination. There are 4 figures and 13 references: 9 Soviet, 2 English, and 2 German.

Card 3/4

Investigations in the Field of Conjugate  
Systems. CXVIII. On the Direction of the  
Addition of Bromine to Vinyl Acetylene Ketones

8/079/60/030/05/10/074  
B005/B002

X

ASSOCIATION: Leningradskiy tekhnologicheskiy institut imeni Lensoveta  
(Leningrad Institute of Technology imeni Lensoviet)

SUBMITTED: May 25, 1959

Card 4/4

S/079/60/030/05/16/074  
B005/B126

AUTHORS: Chelpanova, L. F., Kormer, V. A., Nemirovskiy, V. D.

TITLE: Synthesis and Rearrangement of  $\alpha$ -Glycols of the Ethylene Series. VIII. Rearrangement of 2,3-Dimethylpentene(4)-diol(2,3)

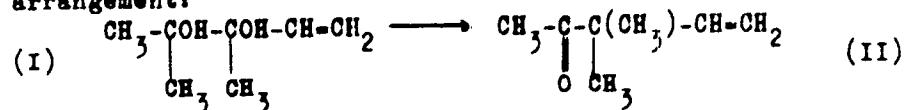
PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1476-1479

TEXT: With 2,3-dimethylpentene(4)-diol(2,3) as an example, A. Ye. Favorskij and his students showed that unsaturated  $\alpha$ -glycols in the presence of strong sulfuric acid can be the cause of a rearrangement of pinacolin. The authors examined the behavior of the similarly formed  $\alpha$ -glycol of the ethylene series (2,3-dimethylpentene(4)-diol(2,3)) (I) on being heated with diluted sulfuric acid. When the compound (I) is heated to 60-70° with 10% sulfuric acid, a bright yellow substance separates from the acid solution, with a boiling range (at 4 mm pressure) of 107-110°. This compound has the gross formula C<sub>7</sub>H<sub>12</sub>O, contains no hydroxyl group, discolors aqueous solutions of potassium permanganate and

Card 1/3

Synthesis and Rearrangement of  $\alpha$ -Glycols of the S/079/60/030/05/16/074  
Ethylene Series. VIII. Rearrangement of B005/B126  
2,3-Dimethylpentene(4)-diol(2,3)

bromine and gives a positive iodoform reaction. This substance forms a 2,4-dinitrophenyl-hydrazone with a melting point of 85-87°C. The formation of this unsaturated ketone can be explained by pinacolin rearrangement:



The analysis of the infrared spectrum of the compound (II) proves the given structure. The infrared spectra were taken with a type ИКС-14 (IKS-14) spectrophotometer. The initial product (I), which is not described in publications, was synthesized by hydrogenation of the acetylene glycols (Ref. 1). Apart from the unsaturated ketone (II), another product formed by the action of  $\text{H}_2\text{SO}_4$  on (I), with a boiling range (at a pressure of 4 torr) of 120-122°; its structure could not be determined. The synthesis of the initial product (I), starting with dimethylacetylenylcarbinol, is described in the experimental part. The reaction with sulfuric acid is also described. The boiling point,

Card 2/3

Synthesis and Rearrangement of  $\alpha$ -Glycols of the S/079/60/030/05/16/074  
Ethylene Series. VIII. Rearrangement of B005/B126  
2,3-Dimethylpentene(4)-diol(2,3)

refractive index, density, molar refractions and results of the  
elementary analyses are given for all products and intermediates ob-  
tained. The Kucherov reaction is mentioned. There are 5 references:  
3 Soviet, 1 American, and 1 German.

ASSOCIATION: Leningradskiy tekhnologicheskij institut imeni Lensoveta  
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: December 31, 1958

Card 3/3

85-12

53400

2209, NR3, 1321

AUTHORS:

Petrov, A. A., Mingaleva, K. S., Maretina, I. A., and  
Nemirovskiy, V. I.

TITLE:

Investigations in the Field of Conjugated Systems. CXXII.  
Dipole Moments and Reactivity of Vinyl Acetylene Ketones  
and Amines

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7, pp. 2248-2250

TEXT: Following their papers (Refs. 1-4) on the interpretation of rules governing the reactivity of vinyl acetylene hydrocarbons, the authors determined the dipole moments of two vinyl acetylene ketones, (I) and (II), of different structures, and of amine (III). The dipole moment of ketone (I) was found to be much larger than the moments of methyl-vinyl ketone (Ref. 5) and mesityl oxide (Ref. 6). The dipole moment of ketone (II), with moments of the carbonyl group and of the enine system opposite to each other, was lower than in the case of methyl-vinyl ketone. The same ratio also existed between the polarizability of these ketones (Table 2).

Card 1/3

85612

Investigations in the Field of Conjugated Systems. CXXII. Dipole Moments and Reactivity B001/B066 of Vinyl Acetylene Ketones and Amines



Vinyl acetylene amine (III), in the molecule of which a conjugation exists between the electron pair of the nitrogen atom and the enin system, showed a very large dipole moment, whereas saturated and unsaturated amines without such a structure have small moments (Refs. 7, 8, 9)

$\text{HC}\equiv\text{C}-\text{CH}=\text{CH}-\text{N}(\text{C}_2\text{H}_5)_2$  (III). This agreement between the changes to be expected for the dipole moments under the conjugation effect and those observed in experiments, support the authors' assumption on the electron displacement in 1,3-enin systems. Vinyl acetylene amine (III) adds bromine primarily to the triple bond. This corresponds to that electron polarization which might be assumed from the magnitude of the dipole moment (Ref. 12). Consequently, a certain dependence exists in some cases between polarity in the steady state and the reactivity of the derivatives of vinyl acetylene hydrocarbons. There are 2 tables and 13 references:

7 Soviet, 1 US, and 5 British.

Card 2/3

85r 12

Investigations in the Field of Conjugated S/079/60/030/007/032/039/XX  
Systems. CXXII. Dipole Moments and Reactivity B001/B066  
of Vinyl Acetylene Ketones and Amines

ASSOCIATION: Leningradskiy tekhnologicheskiy institut imeni Lensoveta  
(Leningrad Technological Institute imeni Lensoveta)

SUBMITTED: July 16, 1959

X

Card 3/3

NEMIROVSKIY, V.D.; CHELPANOVA, L.F.; PETROV, I.S.

Conjugated systems. Part 141: Addition of hydrogen bromide  
to butynone and vinylacetylene ketones. Zhur. ob. khim. 31 no.8:  
2552-2559 Ag '61. (MIRA 14:8)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.  
(Hydrobromic acid) (Ketones)

CHELPANOVA, L.F.; PETROV, A.A.; BONDAREV, G.P.; NEMIROVSKII, V.D.

Conjugated systems. Part 157: Synthesis and hydrobromination of  
4-penten-2-ynal. Zhur. ob. khim. 32 no.8:2487-2489 Ag '62.  
(MIRA 15:9)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.  
(Pent-ynal) (Hydrobromic acid)

CHELPOVA, L.F.; NEMIROVSKIY, V.D.; MASHLYAKOVSKIY, L.N.

Addition of hydrogen bromide to certain acetylenic ketones. Izv.  
vys.ucheb.zav.; khim.i khim.tekh. 7 no.6:945-947 '64.  
(MIRA 18:5)

l. Leningradskiy tekhnologicheskiy institut imeni Lensoveta,  
kafedra organicheskoy khimii.

L 2877-66 EWT(m)/EPP(c)/EWP(j)/T RM

ACC NR: AF5025032

SOURCE CODE: UR/0286/65/000/016/0083/0083

AUTHORS: Mazirovskiy, V. D.; Skorokhodov, S. S.; Shapiro, A. L.; Levin, S. Z.

ORG: none

TITLE: Method for obtaining poly- $\beta$ -oxy-vinyl-N-alkylcarbamates. Class 39,  
No. 173944 announced by Institute for High Molecular Compounds, AN SSSR (Institut  
vysokomolekulyarnykh soedinenii AM SSSR)

SOURCE: Byulleten' isobrashcheniy i tovarnykh znakov, no. 16, 1965, 83

TOPIC TAGS: polymer, polymerization, alkylcarbamate, polyvinylcarbonate

ABSTRACT: This Author Certificate presents a method for obtaining poly- $\beta$ -oxy-  
vinyl-N-alkylcarbamates by the interaction of polyvinylcarbonate with amines. To  
simplify the process and to synthesize polymers having valuable properties, the  
reaction is carried out in a homogeneous medium with dimethylformamide as solvent.

SUB CODE: 07

SUBM DATE: 160463

nw  
Card 1/1

INC: 678.744.42

L 1576-66 EWT(n)/EPF(z)/EWP(j) NM

ACCESSION NR: AP5022604

UR/0190/65/077/009/1580/1584  
541.64+678.614AUTHORS: Nemirovskiy, V. D.; Pavlovskaya, M. A.; Stepanov, V. V.; Skorokhodov, S. S.TITLE: Synthesis of poly- $\beta$ -hydroxyvinyl-N-alkyl-and poly- $\beta$ -hydroxyvinyl-N,N-dialkylcarbamates

SOURCE: Vysokomolekularnyye soyedineniya, v. 7, no. 9, 1965, 1580-1584

TOPIC TAGS: polymer, synthesis, carbamate, polyvinylene carbonate, alkyl radical, dimethyl formamide, infrared spectra

ABSTRACT: Poly- $\beta$ -hydroxyvinyl-N-alkylcarbamates, in which the alkyl radical is CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub>, n-C<sub>4</sub>H<sub>9</sub>, n-C<sub>6</sub>H<sub>13</sub>, n-C<sub>10</sub>H<sub>21</sub>, cyclohexyl and  $\beta$ -hydroxyethyl, and poly- $\beta$ -hydroxyvinyl-N,N-dimethylcarbamate were synthesized by aminolysis of high molecular polyvinylene carbonate in dimethylformamide or dimethylsulfoxide solution. The structure of the polymers was determined by the comparison of their infrared spectra with the spectra of the corresponding model of  $\beta$ -hydroxyethyl-N-alkylcarbamates. The conditions of synthesis and the infrared spectral data are tabulated. The conversion of polyvinylene carbonate to poly- $\beta$ -hydroxyvinyl-

Cord 1/3

L 1576-66

ACCESSION NR: AP5022604

21

N-alkyl carbonates (N-alkylcarbamic esters of polyvinylene glycol) was verified by the elementary analysis of the latter and from their properties (especially solubility). The solubility depends on the substituent at the carbonate atom of nitrogen and on the degree of substitution. A large number of hydroxyl groups results in a higher solubility in lower alcohols, acetic acid, and sometimes in water. Solubility decreases with increasing radical length (except for poly- $\beta$ -hydroxyvinyl-N-alkyl carbonates with N-methyl and N-ethyl groups). The experimental data show that the aminolysis of polyvinylene carbonate does not cause appreciable degradation. The thermomechanical and physicomechanical properties of the resulting polymers (glass temperature, film strength, sedimentation, solubility, viscosity of solutions) were investigated. X-ray analysis showed that the solutions are film-forming. Films from N-butyl carbonates (methanol solution) have a glass temperature of 16°C, tensile strength of 800 kg/cm<sup>2</sup> (in a partially oriented state 1600 kg/cm<sup>2</sup>). From a 15% methanol solution this polymer gives a fiber with an approximately 10 cm breaking length. The authors express their gratitude to V. I. Fedorov, T. K. Kalnina, N. G. Fedorova, G. V. Lyubimova, M. I. Bessonova, and L. V. Kurnosova for carrying out the thermomechanical investigations, and to S. I. Leonin for the ultracentrifugal experiments. Orig. art. has: 1 figure and 1 table.

Card 2/3

I 1576-66

ACCESSION NR: AP502260/

3

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy, AN SSSR (Institute of  
High-Molecular Compounds, AN SSSR)

SUBMITTED: 170wt64

ENCCL: 00

SUB CODE: GC, OC

NO REP Sov: 002

OTHER: 006

Card 3/3 RF

NEMIROVSKIY, V.M.; KALUGIN, B.N.

Reserve modulator for a television transmitter. Vest.sviazi  
20 no.2:29-30 F '60. (MIR 13:5)

1. Starshiye inzhenerny Minskogo teletsentra.  
(Television--Transmitters and transmission)

NEMIROVSKIY, V.M., inzh.; OKS, I.S., inzh.

Noncontact control of an electromagnetic clutch. Mesh. i  
avtom. proizv. 19 no.5:31-32 My '65. (MERA 18:11)

NEMIROVSKIY, Ya.A., kandidat meditsinskikh nauk; CHERYSHEV, L.D., zasluzhennyj  
vrach, glavnyj vrach

Clinical aspects and diagnosis of hemorrhagic pulmonary infarct. Sov.med.  
17 no.6:29-31 Je '53. (MLRA 6:5)

1. Vtoroye terapevticheskoye otdeleniye 1-oy Moskovskoy gorodskoy kliniche-  
skoy bol'nisyy imeni N.I.Pirogova. (Lungs--Infraction)

BORODACHEV, I.P., kandidat tekhnicheskikh nauk; MENIROVSKIY, Ya.I.  
inzhener.

The D-147 scraper with a bucket capacity of 6 to 8 cubic meters  
and having cable control. Mekh.stroi. 4 no.10:1-3 Oct. '47.  
(MLRA 9:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ottdela stroitel'-  
nogo dorozhnogo mashinostroyeniya.  
(Earthmoving machinery)

NEMIROVSKIY, Ya. I.: SURIKOV, M.A.; FEDOROV, V.T., inzhener, laureat Stalinskoy premii.

[Elevating graders] Greider-elevatory. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1953. 102 p.  
(MLRA 6:5)  
(Excavating machinery)

NEMIROVSKIY, Ya. I.

GRIGORENKO, Mikhail Grigor'yevich; KASIMOV, S.A.; KOZLOVSKIY, G.B.;  
MARTYNOV, N.V.; MUSTAFIN, G.A.; ~~NEMIROVSKIY, Ya. I.~~; PEYGIN, L.A.;  
KRIMERMAN, M.N., inzhener, redaktor; MAL'KOVA, N.V., tekhnicheskiy  
redaktor

[Road building machinery] Dorozhnye mashiny. Moskva, Avtotransizat  
Ministerstva avtomobil'nogo transporta i shosseinykh dorog SSSR.  
Pt. 2. 1954. 283 p.  
(Road machinery)

(MLRA 8:2)

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001136520015-7

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001136520015-7"

NEMIROVSKIY, Ya.I., inzh.; GUEHRMAN, F.S., inzh.

Foreign machinery for soil stabilization. Stroi. i dor. mashinostr  
3 no.5:35-38 My '58. (MIRA 11:6)  
(Soil stabilization) (Earthwork)

GOL'DENBLAT, I., doktor tekhn.nauk; TAL', K., kand.tekhn.nauk;  
BULGAKOV, V., kand.tekhn.nauk; BORISHANSKIY, M., kand.tekhn.  
nauk; VASIL'YEV, A., kand.tekhn.nauk; TURKIN, V., kand.tekhn.  
nauk.; NEMIROVSKIY, Ya., kand.tekhn.nauk; MAKARICHENKOV, V..  
kand.tekhn.nauk.

Rude attempt to misappropriate achievements of the Soviet  
art of building. Stroi.prom. 27 no.10:18-19 0 149.  
(MIRA 13:2)

(Reinforced concrete construction)  
(Strains and stresses)

NEMIROVSKIY, Ya. M., kand.tekhn.nauk

Calculating the rigidity of reinforced concrete elements  
subjected to bending. Stroi.prom. 27 no.10:20-24 O '49.  
(MIR 13:2)

1. TSentral'nyy nauchno-issledovatel'kiy institut promyshlennogo  
stroitel'stva.  
(Strains and stresses)

USSR/Chemistry - Foam-Formation in Boilers Oct 51

"Evaluation of Blowing of Boilers as a Method for Combating Foaming of Boiler Water," S. A. Jarov, Ya. N. Semirovskiy, N. G. Fesenko, Hydrochim Inst., Acad Sci USSR

"Zhur Pril Khim" Vol XII, No 9, pp 989-992

Investigation of ability of boiling solns to form foam by method of foam entrainment shows that mixts of electrolytes act much more strongly than colens by rule of additivity show. Inorg colloids with both pos and neg charges have foam-forming action. Constructed diagram of foam entrainment for tertiary

193T29

USSR/Chemistry - Foam-Formation in Boilers Oct 51  
(Contd)

system of electrolytes characteristic for boiler water in iron boilers. Existing method for control of blowing of boilers by chloride or total salt content in boiler water must be replaced by more rational diet of tendency toward foam-foaming from diagrams of tertiary (or quaternary) systems.

193T29

M. V. V. V. M.

NEMIROVSKIY, Ya.M., kandidat tekhnicheskikh nauk; AL'TSHULER, B.A., inzhener.

Investigation of the performance of the refractory-material in the foundation and bottom of blast-furnaces. Stroi.prom. 31 no.6:26-29 Je '53).

(MLRA 6:7)

(Refractory materials) (Blast-furnaces)

ME MIROVSKIY, Ya.M., kandidat tekhnicheskikh nauk

Rigidity of bent reinforced concrete elements subjected to short-  
and long-time loads. Bet.izhel.-bet. no.5:172-176 Ag '55.  
(Reinforced concrete--Testing) (MIRA 8:9)

~~IMIROVSKIY, Ya.M.~~, kandidat tekhnicheskikh nauk.

~~Calculating the rigidity of bent reinforced concrete components.~~  
~~Bet. 1 shel.-bet. no.7:250-254 0 '55.~~ (MIRA 9:1)  
~~(Concrete-Testing)~~

MIMIROVSKIY, Ya.M., kandidat tekhnicheskikh nauk, starshiy nauchnyy sotrudnik; SKAZHENIK, G.D., inzhener; TEMKIN, L.Ye., inzhener; PEVZNER, A.S., redaktor izdatel'stva; DAKHNOV, V.S., tekhnicheskiy redaktor

[Instructions for calculating and designing foundations of blast furnaces] Instruktsiya po raschetu i proektirovaniyu fundamentov domennyykh pechei (I 201-55/MSPMKhP). Moskva, Gos. izd-vo lit-ry po stroit. i arkhitектure, 1956. 60 p. (MLRA 9:9)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva predpriyatiy metallurgicheskoy i khimicheskoy promyshlennosti. 2. Tsentral'nym nauchno-issledovatel'skim institutom promyshlennyykh sooruzhenii (for Mimiroskiy) 3. Glavnyy konstruktor stroitel'nogo sektora Gosudarstvennogo Soyuznogo instituta po proyektirovaniyu metallurgicheskikh zavodov (for Skazhenik) (MLRA 9:9)  
(Blast furnaces)

SOV/124-57-9-11010

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 9, p 160 (USSR)

AUTHOR: Nemirovskiy, Ya. M.

TITLE: Design of Elastically Supported Slabs, Taking Into Account the Rigidity of the Structure and the Stages of Limit Equilibrium (Raschet plit na uprugom osnovanii s uchetom zhestkosti konstruktsiy i stadiy predel'nogo ravnovesiya)

PERIODICAL: Sb. tr. Mosk. inzh.-stroit. in-t, 1956, Nr 14, pp 201-215

ABSTRACT: The results of the calculation of a circular reinforced-concrete foundation slab for a typical blast furnace are analyzed. A comparison is made between the results of calculations by the theory of the semi-infinite elastic solid, first disregarding and then taking into account the actual rigidity of the slab, and by the limiting-strike method. A numerical example illustrating the economical practicability of the last two methods is presented. An opinion is expressed on the possibility of arriving at a still more practical calculation method, based on experimental data derived from a study of the plastic properties of soils.

Card 1/1

P. I. Klubin

~~SEMIROVSKII, Ye.M.~~, kandidat tekhnicheskikh nauk.

Calculating foundation elements. Stroi.prom. № 10:30-33  
0 '56. (MLRA. 9:12)

(Foundations) (Blast furnaces)

AUTHOR: *Nemirovskiy, Ye., M., Candidate of Technical Sciences  
Nikitin, N.V. Corresponding Member of the Academy of  
Building and Architecture of USSR.* Sov 87/58/2/7/16

TITLE: The Coefficient  $\psi$  for Calculation of Hardness of  
Reinforced Concrete Elements. (O koeffitsiyente  
dlya rascheta zhestkosti zhelezobetonnykh elementov).

PERIODICAL: Beton i Zhelezobeton, 1958 Nr 2, pp 66-69.

ABSTRACT: Calculation of the strength of the above-mentioned problem uses coefficient  $\psi$  according to the theory of Professor V.I. Murashev, accepted by the standards (NiTU 123-55). This coefficient is the function of the concrete in the tension zone in between cracks, i.e. changes of tensions in the reinforcement of the concrete with load variation. A theoretical explanation of the function of this coefficient and its application is given in detail. Figure 1 illustrates a curve of distribution of tensions and moments in reinforcement and concrete of the tensioned zone of the reinforced concrete unit in between cracks. Figure 2 shows diagrams of various  $\psi$  coefficients for bent

Card 1/2

scv97/58/2/7/16

The Coefficient for Calculation of Hardness of Reinforced Concrete Elements.

elements of a rectangular section with single reinforcement. Examples of calculations based on the described theory and above mentioned formula are given. Figure 3 illustrates "T" shape beam with slab in the tension zone and Figure 4 the same with slab in compressed zone. There are four figures and two Soviet references.

1. Reinforced concrete--Mechanical properties    2 Structures--Theory

Car 1 2/2

SOV-3-58-9-6/36

AUTHORS: Durov, S.A., Professor, Doctor of Chemical Sciences, and Bykov, I.Ya.; Vologdina, M.P.; Kravtsova, N.M.; Nemirovskiy, Ya.M.; Perova, N.I., and Torgashev, P.D., Candidates of Chemical Sciences

TITLE: The Training of Specialists in Chemistry - to Attain the Level of New Tasks (Khimicheskuyu podgotovku spetsialistov - na uroven' novykh zadach) Our Considerations (Nashi soobrazheniya)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 9, pp 28-29 (USSR)

ABSTRACT: The authors consider that the article of Professor I.N. Putilova and Docent G.A. Raytsyn in Nr 7 of this periodical was published at the proper time, as it substantiates the necessity to bring the teaching of chemistry closer to the speciality of the respective vtuz, to revise the theoretical part of the course's program and to entitle the various vuzes to compose their own programs according to their individual sections. The authors (personnel of the Chairs of Inorganic and Organic Chemistry of the Novocherkassk Polytechnical Institute) set forth in the present article their considerations on the suggestions of I.N. Putilova and G.A. Raytsyn and de-

Card 1/2

SOV-3-58-9-6/36

The Training of Specialists in Chemistry - to Attain the Level of New Tasks.  
Our Considerations

scribe how instruction in chemistry is organized in the Institute's various faculties. Since the number of students coming from plants is increasing year to year, and as many of them require a review course, the most important sections of elementary chemistry should be retained. The idea of specializing chemistry according to the type of vuz is absolutely correct.

There is 1 Soviet reference.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut imeni S. Ordzhonikidze (Novocherkassk Polytechnical Institute imeni S. Ordzhonikidze)

Card 2/2

GUSAKOV, V.N., kand. tekhn. nauk; SHVARTSZAYD, M.S., kand. tekhn. nauk; KAMEYKO, V.A., kand. tekhn. nauk; LEVIN, N.I., kand. tekhn. nauk; KHAVKIN, L.M., inzh.; SKATYNSKIY, V.I., kand. tekhn. nauk; KRASNYY, I.M., kand. tekhn. nauk; NEMIROVSKIY, Ya.M., kand. tekhn. nauk; TEMKIN, L.Ye., inzh., red.; STRASHNYKH, V.P., red. izd-va; BOROVNEV, N.K., tekhn. red.

[Instructions SN 165-61 for designing articles made of autoclaved silicate concretes] Ukaazaniia po proektirovaniyu konstruktsii iz avtoklavnykh silikatnykh betonov CH 165-61. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 50 p.  
(MIRA 14:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (for Gusakov, Shwartszayd). 3. Vsesoyuznyy tsentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR (Kameyko, Levin). 4. Respublikanskiy nauchno-issledovatel'skiy institut mestnykh stroitel'nykh materialov Vserossiyskogo soveta narodnogo khozyaystva (for Khavkin). 5. Nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury USSR (for Skatynskiy). 6. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR (for Krasnyy, Nemirovskiy).

(Precast concrete)

(Sand-lime products)

GVOZDEV, A.A., doktor tekhn.nauk, prof.; DMITRIYEV, S.A., kand.tekhn.nauk;  
NEMIROVSKIY, Ya.M., kand.tekhn.nauk

Calculation of the displacements (deflections) of reinforced  
concrete elements according to the draft of the new standards  
(SNiP 2-V.1-62). Bet. i zhel.-bet. 8 no.6:245-250 Je '62.  
(MIRA 15:7)

(Precast concrete)  
(Flexure)

TAL', K.E., kand. tekhn. nauk; LESSIG, N.N., kand. tekhn. nauk; Prinimali  
uchastiye: GVOZDEV, A.A.; ALEKSANDROVSKIY, S.V.; BORISHANSKIY,  
M.S.; DMITRIYEV, S.A.; KRILOV, S.M.; MIKHAYLOV, K.V.; MULIN, N.M.;  
~~NEMIROVSKIY, Ya.M.~~; CHISTYAKOV, Ye.A.; VASIL'YEV, B.F.; BOGATKIN,  
I.L.; ZALESOV, A.S.; NIKITIN, I.K.

New standards SNIP II-V. 1-62 for the design of concrete and  
reinforced concrete elements. Bet. i zhel.-bet. 9 no. 3:97-102  
Mr. '63. (MIRA 16:4)

1. Nauchno-issledovatel'skiy institut betona i shelenobetona  
Akademii stroitel'stva i arkhitektury SSSR (for all except  
Vasil'yev, Bogatkin, Zalesov, Nikitin). 2. Gosudarstvennyy  
institut tipovogo proyektirovaniya i tekhnicheskikh issledovaniy  
(for Vasil'yev, Bogatkin, Zalesov, Nikitin).

NEMIROVSKIY, Ye., starshiy nauchnyy sotrudnik.

Foreign patents; United States. Izobr.i rats. no. 3,531,174.  
MIRE 17:4.

1. Nauchno-issledovatel'skiy institut poligraficheskogo  
mashinostroyeniya.

LEGEYDA, AI.I., NEMIROVSKIY, YE.I. (engineers)

Road machinery

Set of machines for concrete road paving. Mekh. trud. rab. 6, no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August <sup>2</sup> 1951. Unclassified.

1. LEGEYDA, A. I.; NEMIROVSKIY, YE. I.
2. USSR 600
4. Road Machinery
7. Machines for building concrete roads, Vest. mash., 32, No. 9, 1952.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KHOMYAKOV, K.G.; STIKHOVNIN, A.M.; ~~MEMIROVSKY, E.I.~~; GUROV, P.G.

Branch conferences of production activists of the Main Admin-  
istrations of the Ministry. Stroi.i dor.mashinostr. no.9:37-38  
S '56. (MLRA 9:11)

(Machinery industry--Congresses)

NEMIROVSKIY, Ye. I.; REBROVA, G.I.; SAVINKOV, S.M.; GOLUBEVA, I.A., red.;  
~~PETROVSKIN, I.V.~~, tekhn.red.

[Work conditions and the wage system in forestry; a manual for workers, engineers and technicians, accounting personnel, and guards of working circles and groups] Usloviia truda i sistemy zarabotnoi platy v lesnom khozaisstve; posobie dlia rabochikh, inzhenerno-tehnicheskikh rabotnikov, schetnogo personala i rabotnikov lesnoi okhrany leskhозov i lesnichestv. Moskva, Izd-vo M-va sel'. khoz.SSSR, 1960. 346 p. (MIRA 13:4)  
(Wages) (Forests and forestry)

BONODIN, Mikhail Maksimovich; L'VOV, Sergey Vladimirovich;  
NEMIROVSKIY, Yevgeniy Il'ich; PROSKURYAKOV, Nikolay  
Aleksandrovich; CHULITSKIY, Lev Dmitriyevich; REBROVA,  
G.I., red.; LABAZINA, S.N., red. iad.-va; GRECHISHCHEVA,  
V.I., tekhn. red.

[Work and wages for the workers of the forest economy and the  
lumbering industry] Trud i zarabotnaia plata rabotnikov les-  
nogo khoziaistva i lesnoi promyshlennosti. Mozhkva, Goslesbu-  
izdat, 1962. 323 p. (MIRA 16:3)  
(Wages—Forests and forestry)

NEMIROVSKIY, Ye. L.

PA 196T54

~~WWW~~/Electricity - Electroplating Sep '81

"The Work of Russian Inventors in the Field  
of Electroplating," Ye. L. Nemirovskiy,  
Sci Res Inst of Polygraphic Mach Bldg

"Elektrichestvo" No 9, pp 74-80

Reviews Russian work in electroplating since  
1836. Also gives some details on recent  
work, e.g., the development of instruments  
for measuring cd in tanks by Brikchan, Peyres,  
Litvinovich, and Surenkov, work on finding a  
suitable mix for alk zinc tanks without using  
cyanides, original platings (lead-tin-copper)  
for bearing inserts, etc. 196T54

NEMIROVSKIY, YE. L.

Electric Engineers

Material for a biography of I. M. Fedorovskiy, the Russian Electric engineer and inventor of the XIX century. Elektrichestvo no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 Unclassified.

MEMIROVSKIY, Ye.L.

Galvanic element of P.R.Bagration. Elektrichestvo no.9:73-75 S '53.  
(MIRA 6:9)  
(Bagration, Petr Romanovich, 1818-1876) (Electric batteries)

NEMIROVSKIY, Ye.L.

Andrei Chokhov's hundred-charge gun. Lit.proizv. no.2:32 Mr-Ap '54.  
(MLRA 7:4)  
(Chokhov, Andrei)

NEMIROVSKIY, Ye. L.  
NEMIROVSKIY, Ye.L.

History of the cyanide process. TSvet.met. 27 no.2:67-70 Mr-Ap '54.  
(MIRA 10:10)  
(Electrometallurgy)

~~REMIROVSKIY, Ye.L.~~

New materials on Andrei Chokhov. Trudy Inst.ist.est.i tekhn.13:51-  
66 '56. (MIRA 10:1)  
(Chokhov, Andrei, d.1629)

NEMIROVSKIY, Ye.L.

Processing the patent literature. Izobr. v SSSR 2 no.9:27-29  
S '57. (MIRA 10:10)  
(Patents--Classification)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7

NEMIROVSKIY, Ye.

Photographic typesetting. Sov. foto 17 no.12:48-51 D '57.  
(Typesetting) (Photography) (MIRA 11:1)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7"

NEMIROVSKIY, Ye., inzhener.

Silk screens instead of printing plates. Tekh.vol. 25 no.6:25  
Je '57. (MIRA 10-7)  
(Screen process printing)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7

~~NEMIROVSKIY, Ye.L.~~

Russian patent literature before the Revolution. Izobr.v SSSR  
3 no.1:21-22 Ja '58. (MIRA 11:1)  
(Patents--Bibliography)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7"

NEMIROVSKIY, Ye. L.

English patent literature. Izobr. v SSSR 3 no.2:29-30 P '58.  
(Great Britain--Patent laws and legislation) (MIRA 11:3)

NEMIROVSKIY, Ye.L.

Automation of Booklet-binding work. Izobr.i rats. no. 8:15-17  
Ag '58. (MIRA 11:9)  
(Automation) (Bookbinding)

NEMIROVSKIY, Ye.L.; CHERNYSHEV, A.N., kand.tekhn.nauk, red.; TROITSKAYA,  
L.P., red.; ZOTOVA, N.V., tekhn.red.

[Electrography; collected translations from foreign periodicals]  
Voprosy elektrografii; sbornik perevodov iz inostrannoi periodicheskoi literatury. Pod obshchei red. A.N.Chernysheva. Moskva, Izd-vo inostr.lit-ry, 1960. 257 p. (MIRA 14:1)  
(Xerography)

ZHILEVICH, Ivan Iosifovich; NEMIROVSKIY, Ye.L.; IOTIS, Ye.A., kand.  
tekhn. nauk, red.; PANFILOV, N.D., red.; TUMANOVSKIY, R.F.,  
tekhn. red.

[Electrophotography] Elektrofotografiia. Pod red.E.A.Iofisa.  
Moskva, Gos. izd-vo "Iskusstvo," 1961. 125 p. (Biblioteka fo-  
toliubitelia, no.24) (MIRA 15:3)  
(Xerography)

AUTHOR: Nemirovskiy, Yu. V. (Novosibirsk) SOV/179-59-3-24/15

TITLE: On Elasto-plastic Equilibrium and Supporting Capacity  
of a Hollow Rotating Tube (Ob uprugo-plasticheskem  
ravnovesii i nesushchey sposobnosti poloy vrashchayushch-  
ey sya truby)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh  
nauk, Mekhanika i mashinostroyeniye, 1959, Nr 3,  
pp 148-151 (USSR)

ABSTRACT: The rotating tube (cylinder) under consideration is  
affected only by the forces of inertia. The angular  
velocity of rotation is  $\omega$ , the internal and external  
diameters are  $a$  and  $b$  respectively. The deformation  
is assumed to be continuous and directed along the axis.  
The calculation is based on Eqs (1) and (2), where  
 $\sigma_r$ ,  $\sigma_\theta$ ,  $\sigma_z$  - radial, circular and axial stresses  
respectively.  $\epsilon_r$ ,  $\epsilon_\theta$ ,  $\epsilon_z$  - components of total  
deformation,  $f(\sigma_1, \sigma_2, \sigma_3) = f(\sigma_r, \sigma_\theta, \sigma_z) = \sigma_\theta - \sigma_z -$   
the plastic potential,  $\lambda$  - a positive multiplier (the  
proof of Eq (1) is given by Eqs (15) to (19)). The  
Card 1/2 equation of equilibrium is defined as Eq (3), where

SOV/179-5)-3-24/45

On Elasto-plastic Equilibrium and Supporting Capacity of a Hollow Rotating Tube

$\gamma/g = \gamma'$  - density of material. The condition of uniform deformation is expressed as Eq (4). The corresponding stresses are defined by Eq (10), where  $\sigma_r^e = 0$  for  $r = b$  and  $\sigma_r^e = \sigma_r$  for  $r = \rho$ . The radius of the elasto-plastic boundary can be calculated from:

$$\sigma_\theta^e - \sigma_z^e = \frac{B}{\rho^2} - E\epsilon_z = \sigma_s \quad \text{for } r = \rho$$

The formula (11) determines the state of the rotating cylinder, where  $\alpha$  and  $n$  are defined as Eq (12). The rotation  $n = n(\alpha)$  is illustrated in the figure on p 150, where the circular points represent the values calculated from Eq (11). For  $\alpha \rightarrow 1$  this formula gives the values as in Eq (13) in the case of a thin collar ( $v$  - linear velocity). For  $\alpha = 0$  the values of Eq (14) are calculated from Eq (10).

There are 1 figure and 2 Soviet references.

SUBMITTED: April 10, 1958

Card 2/2

24-1  
S/179/59/000/01/01/129

E081/E1+1

AUTHOR: Nemirovskiy, Yu. V. (Novosibirsk)

TITLE: Calculation of the Elasto-plastic Press Fit of Discs

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 6.  
pp 115-117 (USSR)

ABSTRACT: The press fit of a homogeneous disc into an annular disc of different material is discussed. The mechanical properties of the materials are specified by their Young's moduli,  $E_1$ ,  $E_2$ , Poisson ratios  $\nu_1$ ,  $\nu_2$ , and the critical stresses  $\sigma_{s1}$  and  $\sigma_{s2}$  according to the Saint Venant plasticity conditions. It is assumed that the discs are thin and of uniform thickness, so that the stress state is plane in both discs. The conditions for plastic flow in both discs are derived (Eq (3) internal, Eq (4) external). Equations are also found for the stresses and displacement in the elastic regions (Eq (7)) and for the strains in the plastic regions (Eq (8)).

The tightness of fit  $\delta$  is given by the following equations: (1) deformation of internal disc elastic and of external disc elasto-plastic.

Card  
1/2

63467

8/179/59/002/06/017/021  
E091/E1-1

## Calculation of the Elasto-plastic Press Fit of Discs

$$\frac{\delta}{2} = \frac{1-\frac{1}{r_1}}{E_1} \frac{pr_2^2}{r_2^2 - r_1^2} \left\{ 1 + \frac{1+\frac{1}{r_1}}{1-\frac{1}{r_1}} \frac{r_2^2}{r_2^2} + \frac{r_2}{E_2} \left( \frac{p}{r_2^2} + \sigma_{s1} \frac{r_1^2}{r_2^2} \right) \right\}$$

(1) deformation of internal disc elasto-plastic, and of external disc elastic

$$\frac{\delta}{2} = \frac{1-\frac{1}{r_2}}{E_2} \frac{pr_2^2}{(r_2^2 - r_1^2)} \left[ 1 + \frac{1+\frac{1}{r_2}}{1-\frac{1}{r_2}} \frac{r_1^2}{r_2^2} + \frac{(1-\frac{1}{r_2})}{E_1} pr_2^2 + \right.$$

$$\left. + \frac{2\sigma_1 r_2^2}{(r_2^2 - r_1^2) E_1} p + \sigma_{s1} \frac{r_1^2}{r_2^2} - 1 \right]$$

(2) deformation of both discs elasto-plastic

$$\frac{\delta}{2} = \frac{r_2}{E_2} \left( \frac{p}{r_2^2} + \sigma_{s2} \frac{r_2^2}{r_2^2} \right) + \frac{1-\frac{1}{r_1}}{E_1} pr_2^2 + \frac{2\sigma_1 r_2^2}{(r_2^2 - r_1^2) E_1}$$

Cart  
2/3

$$p + \sigma_{s1} \frac{r_1^2}{r_2^2} - 1$$

51.67

S/179/59/000/06/017/029  
E081/E141

Calculation of the Elasto-plastic Press Fit of Discs

(see the Figure on page 115 for definitions of  
 $r_1$ ,  $r_2$ ,  $r_3$ ,  $\sigma_1$ ,  $\sigma_2$ ;  $p$  is the contact pressure).

There are 1 figure and 2 Soviet references.

SUBMITTED: December 16, 1958

Card 3/3

NEMIROVSKIY, Yu.V. (Novosibirsk)

Stress in nonuniformly heated discs beyond the elastic limit.  
PMTF no.1:122-124 My-Je '60. (MIRA 14:8)  
(Strains and stresses) (Elasticity)

RABOTNOV, YU.N., MEMIROVSKIY, YU.V.

On Limit state of ribbed plates and shells

Report to be submitted for the Shell Structures, International  
Association for (IASS) Symposium on Non-Classical Shell Problems  
Warsaw, Poland, 2-5 Sept 63

IVANOV, G.V. (Novosibirsk); NEMIROVSKIY, Yu.V. (Novosibirsk);  
RABOTNOV, Yu.S. (Novosibirsk)

Dynamics of a rigidly plastic system of cross bracings. Izv.  
AN SSSR Otd. tekh. nauk. Mekh. i mashinostr. no.2:51-57  
Mr-Ap '63. (MIRA 16:6)

(Structural frames)

L-10671-63

EMT(F)/EMT(m)/DIS-AFPTC--EM

ACCESSION NO. AF2000897

5/079/63/000/002/0163/0168

5-1

AUTHOR: Mirovskiy, Yu. V. (Novosibirsk)

TITLE: The load-carrying ability of circular reinforced plates.

SOURCE: AN SSSR. Izv. Otd. tekh. nauk. Mekhanika i mashinostroyeniye, no. 2, 1963, 163-168

TOPIC TERMS: plates, reinforced plates, circular plates, sandwich construction, rib-reinforced plates, symmetrically reinforced plates, unsymmetrically reinforced plates.

ABSTRACT: This theoretical paper examines the limiting equilibrium of rib-reinforced plates of three types (see Fig. 1 and Fig. 2, a, b, and c): (a) two-layer-type structures in which the ribs connect two thin sheets of outer skin; (b) single-layered structures reinforced symmetrically, wherein a single-sheet plate is reinforced on both sides by ribs placed symmetrically with respect to its middle surface; (c) single-sheet plates in which the pattern of ribs is

Card 1/72

L 10671-53

0

ACCESSION NR: AP300097

placed entirely on one side of the plate. Limit curves corresponding to the Mises and Tresca plasticity conditions are constructed. The curves thus obtained are employed to examine the load-carrying capacity of a freely-supported plate with a rigid core. The paper is intended to fill a gap in current literature, in which rib-reinforced plates are not investigated. The investigation of the load-carrying capacity of circular reinforced plates employs the conception of the isotropic plastic body as its point of departure. In the three above-cited basic configurations it is assumed that the reinforcing elements are identical in the principal directions, that their number is sufficiently great, that the annular ribs are equidistant, and that the radial ribs divide the plate into congruent sectors. The solutions found are briefly generalized to the case of ribs which have a width that varies linearly with the radius. There are 26 numbered equations and 8 figures.

ASSOCIATION: none

SUBMITTED: 01Mar62 DATE ACQ: 12Jun63

ENCL: 01

SUB CODE: AP MR REF Sov: 001

OTHER: 002

Card 2/2

NEMIROVSKY, YU. V. (Novosibirsk)

"The use of the maximum reduced stress criterion in the theory of creep"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64

ACCESSION NR: AP4043892

S/0179/64/000/004/0077/0086

AUTHOR: Ivlev, D. D., Listrova, Yu. P., Nemirovskiy, Yu. V.

TITLE: Limit design of laminated plates and shells of revolution

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 4, 1964, 77-86

TOPIC TAGS: airfoil design, limit design, airfoil limit design, laminated plate, shell of revolution, shell stability, cylindrical shell

ABSTRACT: Many investigations have considered the carrying capacity of plates and shells of revolution. The theory has been simplified significantly by consideration of laminated models. The limit design of reinforced plates and cylindrical shells has also been considered with the shell consisting of two layers. In the present paper, reinforced shells are considered as laminated shells, and shells of revolution are analyzed, particularly cylindrical shells. These shells have sets of meridional and annular diaphragms. Fig. 1. in the Enclosure shows the different structural members. In this figure,  $a_1$ ,  $b_1$  and  $c_1$  may be replaced by  $a_2$ ,  $b_2$ , and  $c_2$  and eventually by the multi-laminar structures  $a_3$ ,  $b_3$  and  $c_3$ . First,  $a_1$  is considered. This can be replaced by the models in Fig. 2 of the

Card 1/8

ACCESSION NR: AP4043892

Enclosure. The upper layer is taken as the skin and the other two layers are diaphragms. If the limit resistance under tension-compression for the structures shown in Figs. 2a and 2b coincide:

$$n_{di} = k_i \delta + k_i H_i s_i = k'_i \delta' + k'_i (l_i l_i^* + l_i l_i^*) \quad (1)$$

(i = 1, 2)

After transformations:

$$k'_i + k_i^{**} = \frac{k_i H_i s_i}{l_i} \quad (2)$$

(i = 1, 2)

where  $k'$  is the yield point of the skin and  $k_i^*$  (with  $i=1, 2$ ) are the yield points of the layers replacing the diaphragms. Further, the authors find the limit moments (Fig. 2a):

$$M_{di} = \frac{1}{4} s_i k_i z_i^3 + \frac{1}{2} s_i k_i (H_i - z_i)^2 + \frac{1}{2} k_i l_i [(H_i - z_i + \delta)^3 - (H_i - z_i)^3] \quad (3)$$

(i = 1, 2)

Equations are then evolved for the other types of structures considered. The creep surfaces of laminated shells are plotted on the basis of methods developed by V. Prager. Considering that the skin material follows the plastic conditions of Tresk (see Fig. 3 in

Card 2/8

ACCESSION NR: AP4043892

in the Enclosure) and that D is the dissipation of mechanical work per unit of time for a deformed shell, we obtain

$$D = \frac{1}{2} k^* (|e_1^+| + |e_2^+| + |e_1^- + e_2^+|) + (k_1^* |e_1^+| + k_2^* |e_2^+|) + (k_1^{**} |e_1^-| + k_2^{**} |e_2^-|) \quad (4)$$

where  $C_1$  and  $C_2$  are the deformation rates. On the basis of approximations described by P. G. Hodges, Jr. the creep surface is plotted as the intersection of the creep surfaces without moments and with pure moments. Under maximum stress without moments, the creep surface is:

$$N_1 = \frac{1}{2} k^* [\text{sign}(e_{10} + 2e_{20}) + 2\text{sign}(2e_{10} + e_{20}) - \text{sign}(e_{20} - e_{10})] + (k_1^* + k_2^{**}) \text{sign}(e_{10}) \quad (5)$$

$$N_2 = \frac{1}{2} k^* [2\text{sign}(e_{10} + 2e_{20}) + \text{sign}(2e_{10} + e_{20}) + \text{sign}(e_{20} - e_{10})] + (k_1^* + k_2^{**}) \text{sign}(e_{20}) \quad (5)$$

The limit condition of cylindrical shells under axial load is also considered in the paper. The polyhedron shown in Fig. 4 of the Enclosure is plotted on the basis of the Tresk creep

Card 3/8

ACCESSION NR: AP4043892

condition and the previously mentioned dissipation, and parameters for the models are tabulated. Orig. art.has: 10 figures, 29 equations and 5 tables.

ASSOCIATION: none

ENCL: 004

SUBMITTED: 04Feb63

OTHER: 003

SUB CODE: AS

NO REF SOV: 009

Card 4/8

ACCESSION NR: AP4043892

ENCLOSURE: 01

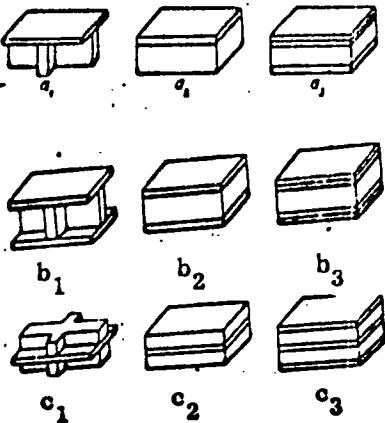


Figure 1.

Card 5/8

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7

ACCESSION NR: AP4043892

ENCLOSURE: 02

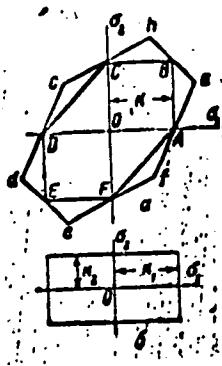


Figure 2.

Card 6/8

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7

ACCESSION NR: AP4043892

ENCLOSURE: 03

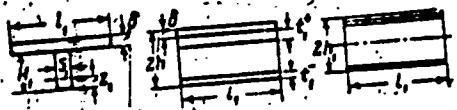


Figure 3.

Card 7/8

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7

ACCESSION NR: AP4043892

ENCLSOURCE: 04

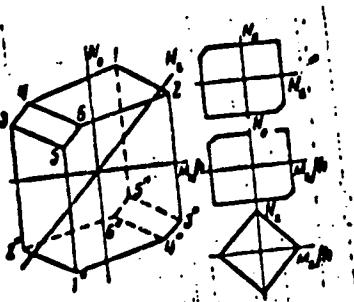


Figure 4.

Card 8/8

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136520015-7"

Krivonoskiy, Yu. V. (Novosibirsk)

Creep equations based on the relation of maximum stress and time.  
Izv. AN SSSR. Mekh. i mashinostr. no. 3, 1977, p. 12.

IVLEV, D.D.; LISTROVA, Yu.P.; NEMIROVSKY, Yu.V.

Theory of the limiting state of laminated plates and shells  
of revolution. Izv. AN SSSR Mekh. i mashinostr. no.48  
77-86 \*64 (MIRA 17:8)